Applicant:	Chakrabarti et al.	)	Art Unit:	2711
		)		
Serial No.:	08/947,221	)	Examiner:	Le
		)		
Filed:	July 8, 1998	)	**AM9-97-120**	
		)		
For:	METHOD AND SYSTEM FOR FILTERING OF	)	March 26, 2000	
	INFORMATION ENTITIES	)	750 B STREET, Suite 3120	
		)	San Diego, CA 92101	
		)		

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TRANSMITTAL LETTER FOR - APPEAL BRIEF

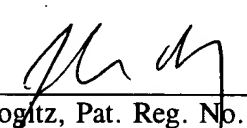Commissioner of Patents and Trademarks
Washington, DC 20231

Dear Sir:

In connection with the above-referenced case, enclosed herewith are the following:

1. A Transmittal Letter for - Appeal Brief in one page with Cert. of Express Mailing;
2. An Appeal Brief in 7 pages, along with Appendix A in 4 pages, in triplicate;
3. An Acknowledgment Postcard.

The Commissioner is hereby authorized to charge fees required under 37 CFR 1.136 (a) to Deposit Account 09-0441 .

Respectfully submitted,

John L. Rogitz, Pat. Reg. No. 33,549
Attorney of Record
750 B Street, Suite 3120
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JLR:jg

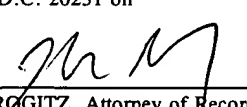### CERTIFICATE OF EXPRESS MAILING

I hereby certify that this document, together with any papers described as attached or enclosed, is being deposited with the United States Postal Service, "Express Mail Post Office to Addressee" service, Express Mailing label No. EL480019830 US under 37 CFR §1.10, addressed to Board of Patent Appeals, Assistant Commissioner for Patents, Washington, D.C. 20231 on
3/27 , 2000.

Date Signed: 3/27 , 2000

JOHN L. ROGITZ, Attorney of Record
Registration No. 33,549

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Applicant:	Chakrabarti et al.	)	Art Unit:	2711
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Filed:	July 8, 1998	)	**AM9-97-120**	
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For:	METHOD AND SYSTEM FOR FILTERING OF INFORMATION ENTITIES	))	March 25, 2000 750 B STREET, Suite 3120 San Diego, CA 92101	
		)		
		)		

APPEAL BRIEF

Commissioner of Patents and Trademarks
Washington, DC 20231

Dear Sir:

This appeal brief is submitted under 35 U.S.C. §134. This appeal is further to Appellant's Notice

of Appeal filed January 28, 2000.

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(1)   Real Party in Interest

The real party in interest is the assignee.

(2)   Related Appeals/Interferences

No other appeals or interferences exist which relate to the present application or appeal.

(3)   Status of Claims

Claims 1-13 are pending. All pending claims have been finally rejected, and the rejections of the claims are hereby appealed. A copy of the claims is enclosed herewith as Appendix A.

(4)   Status of Amendments

No amendments are outstanding.

(5)   Summary of Invention

The invention is a method for finding relationships between entities, and as specifically set forth in claim 1, between hyperlinked entities. Affinity values are obtained which include, for each entity, respective affinity values representing some affinity between the entity and each one of the other entities of the collection

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As set forth in claim 1, an affinity value can depend on a hyperlink, whereas Claim 12 recites that the affinity values are not constrained to be symmetric, as is the case with hyperlinks (they are non-symmetric). Claim 13, like Claim 12, is not explicitly limited to collections of hyperlinked documents, but recites that the affinity values are not based on content of the entities alone, as is the case for affinity values based on hyperlinks.

The present method also includes initializing significance values for each of the entities, iteratively calculating updated significance values for each entity, based on the affinities and on the significance values prior to the iterative update, until a predetermined condition is reached, and then obtaining the useful information based on the significance values after the final iteration.

(6)   Issues

      (a)   Whether Claim 1 is unpatentable under 35 U.S.C. §103 as being obvious in light of Deerwester in view of Barret et al.

      (b)   Whether Claim 12 is unpatentable under 35 U.S.C. §102 as being anticipated by Deerwester.

      (c)   Whether Claim 13 is unpatentable under 35 U.S.C. §102 as being anticipated by Deerwester.

(7)   Grouping of Claims

Claims 1-11 are grouped together. Claim 12 is grouped separately from all other claims, as is Claim 13. This is because Claim 1 is expressly limited to hyperlinked documents, whereas Claims 12 and 13 are limited to respective distinctive features of hyperlinked documents (asymmetricity and non-content

dependence, respectively) that nonetheless can apply to non-hyperlinked but otherwise referenced documents, unlike Claim 1.

(8)(a) Argument

Claim 1 has been rejected as being obvious in light of Deerwester, which relates non-hyperlinked documents together and which nowhere appears to mention hyperlinks, in light of Barrett et el., used simply as a teaching that hyperlinked documents exist.

Applicants assert that it is axiomatic that simply because a reference can be modified (and it is not clear how Deerwester could in fact be modified to use hyperlinks), it is insufficient to establish a prima facie case of obviousness unless the prior art motivates the modification, MPEP §2143.01 (citing In re Mills). Indeed, **actual evidence** of this is required, and "broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence". In re Dembiczak, 175 F.3D 994, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999). As set forth in Dembiczak, "the best defense against the subtle but powerful attraction of hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references", Id. at 999, 50 U.S.P.Q.2d at 1617.

With this fundamental legal guidance in mind, the examiner has failed to identify a prior art suggestion to combine Deerwester with Barrett et al., but has rather simply stated that Barrett et al. shows "that related entities are linked by hyperlinks. Clearly, at least one affinity value depends on at least in part on at least one hyperlink since hyperlinks are linking related entities retrieved by a search engine."

As best understood, what the Office Action is saying is that once Deerwester is modified in some unknown, unproposed way to use the hyperlinks of Barrett et al., then the affinity values would depend on

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hyperlinks. This jumps over the critical step of making a prima facie case of obviousness, however, in that no prior art motivation to modify Deerwester to use Barrett et al.'s hyperlinks is identified in the first place.

Furthermore, Applicants believe that none exists. Deerwester is directed to database mining by identifying associations between terms of documents, as set forth in the background of Deerwester. The algorithm of Deerwester thus depends on terms; how it could use non-term references such as hyperlinks is a mystery. Indeed, in both the final rejection and Advisory Action the examiner admits that hyperlinks are references from one document to another, and accordingly are, per this admission, independent of terms in the documents.

Nothing in Deerwester appears to motivate relating documents by anything other than common terms. Certainly, Deerwester's method depends on terms, and would lack the input it requires if hyperlinks were used instead of terms. It would thus appear that inputting hyperlinks into Deerwester would result in an output that does not make sense, thus rendering Deerwester unsuitable for its intended purpose, a modification that accordingly is contrary to MPEP §2143.01 (Citing In re Gordon). Consequently, nothing in Deerwester appears to provide the impetus to relate documents by references to each other.

Applicants' position is bolstered by Deerwester itself. Specifically, col. 8, line 65 to col. 9, line 5 of Deerwester appears to be the only place in Deerwester that mentions the Internet, yet nothing in this short paragraph refers to "hyperlinks". It accordingly would seem most difficult to find a suggestion in Deerwester to gut its algorithm of its central theme - term affinity - and replace it with another protocol, namely, affinity as evidenced by hyperlinks (which are references, not terms), when Deerwester itself does not mention "hyperlinks" when it addresses Internet data mining using term affinity.

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The lack of suggestion in Deerwester to use hyperlinks in a document-relating context does not appear to be cured by the secondary reference, in that the secondary reference is directed to a completely different problem than relating documents, namely, keeping track of Web site access statistics. Accordingly, the rejection of Claim 1 appears to be a classic case of picking and choosing claim elements from disparate prior art patents without any "actual evidence" to combine them. For this reason, Applicants respectfully request that the rejection of Claim 1 and its dependent claims be reversed.

(8)(b) Argument

Independent Claim 12 has been rejected as being anticipated by Deerwester, on the ground that Deerwester does not explicitly require its affinity values to be symmetric. Of course, there is no reason for Deerwester to explicitly state "my affinity values are symmetric", since Deerwester doesn't consider the issue of symmetric versus asymmetric values.

In fact, regardless of whether Deerwester does or does not explicitly state "my affinity values are symmetric", Deerwester's affinity values, being based on common terms, *are indeed constrained to be symmetric*. Applicants have explained this actual evidence, which appears on the face of Deerwester, to the examiner and have challenged the examiner to show where Deerwester is not constrained to symmetric values. Instead, the examiner continues to rely not on "actual evidence" but on the **lack of a teaching away** from asymmetric values. What has thus escaped the examiner is that while a teaching away is evidence of nonobviousness, a lack of a teaching away is not evidence of unpatentability. Otherwise, no new invention would be patentable unless it were first thought of and then taught away from by the prior art. For this reason, the present rejection would appear to fail to comply with the Manual of Patent Examining Procedure

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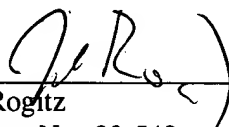Serial No.: 08/947,221
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(MPEP) §2142 et seq. in that each and every element of Claim 12 has not been identified in the prior art. Accordingly, Applicants request that the rejection of Claim 12 be reversed.

(8)(c)   Argument

Independent Claim 13 has been rejected as being anticipated by Deerwester, on the ground that Deerwester does not explicitly require its affinity values to be based on content alone. As was the case with the issue of symmetric values, there is no reason for Deerwester to explicitly state "my affinity values are based on content alone", since the entire disclosure of Deerwester contemplates affinity values that are constrained to be term-based, in contrast to Claim 13. Accordingly, the reasons set forth above for why the rejection of Claim 12 ought to be reversed apply to Claim 13 as well.

Respectfully submitted,

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APPENDIX A

1.　　　A method for eliciting information, useful to a user, from first and second collections of entities or resources with explicit and/or implicit, static and/or dynamic relations therebetween, the method comprising the acts of:

　　　obtaining the first collection of entities and the second collection of entities. hyperlinks being established between at least some of the entities;

　　　obtaining affinity values, including, for each given one of the entities, a respective affinity value for the given entity and each respective one of the other entities of the collection, whereby at least one affinity value depends at least in part on at least one hyperlink;

　　　initializing significance values for each of the entities; [and]

　　　iteratively calculating updated significance values for each entity, based on the affinities and on the significance values prior to the iterative update, until a predetermined condition is reached; and

　　　obtaining the useful information based on the significance values after the final iteration of the act of iteratively calculating.

2. A method as recited in claim 1, wherein the step of obtaining affinity values includes obtaining, for each one of the given entities in the first collection, a respective affinity value for the given entity and each respective one of the entities in the second collection.

3. A method as recited in claim 1, wherein the step of obtaining first and second sets of entities includes obtaining a single set of entities as both the first set and the second set.

1 4. A method as recited in claim 3, wherein the step of obtaining affinity
2 values includes obtaining, for each one of the given entities in the single set of
3 entities, a respective affinity value for the given entity and each respective other
4 one of the entities in the single set.

1 5. A method as recited in claim 1, wherein the step of obtaining affinity
2 values includes the steps of:
3   obtaining a set of raw affinity values; and
4   deriving a set of derived affinity values from the raw affinity values.

1 6. A method as recited in claim 5, wherein the step of deriving derived
2 affinity values includes using one of:
3   a sum operation,
4   an average operation,
5   a min operation,
6   a max operation, and
7   a linear combination.

1 7. A method as recited in claim 1, wherein:
2   the method further includes the step of computing similarity values between
3 the entities based on the affinity values; and
4   the step of iteratively calculating updated significance values includes
5 iteratively calculating updated significance values based on the affinities and on the
6 significance values.

1 8. A method as recited in claim 7, further comprising the step of iteratively
2 calculating a updated principal affinity component value for each entity of interest
3 based on the affinities and similarities.

1   9. A method as recited in claim 8, wherein:

2   the step of computing similarity values includes computing a similarity matrix;

3   and

4   the step of iteratively calculating a updated principal affinity component value

5   includes calculating a non-principal eigenvector of the similarity matrix.

1   10. A method as recited in claim 8, wherein the step of obtaining the useful

2   information includes obtaining the useful information based on the updated principal

3   affinity component values.

1   11. A method as recited in claim 10, wherein the step of obtaining the useful

2   information based on the updated principal affinity component values includes

3   obtaining a cluster.

12.   A method for eliciting information, useful to a user, from first and second collections of entities or resources with explicit and/or implicit, static and/or dynamic relations therebetween, the method comprising the acts of:

obtaining the first collection of entities and the second collection of entities;

obtaining affinity values, including, for each given one of the entities, a respective affinity value for the given entity and each respective one of the other entities of the collection, the affinity values not being constrained to be symmetric;

initializing significance values for each of the entities;

iteratively calculating updated significance values for each entity, based on the affinities and on the significance values prior to the iterative update, until a predetermined condition is reached; and

obtaining the useful information based on the significance values after the final iteration of the act of iteratively calculating.

13.   A method for eliciting information, useful to a user, from first and second collections of entities or resources with explicit and/or implicit, static and/or dynamic relations therebetween, the method comprising the acts of:

obtaining the first collection of entities and the second collection of entities;

obtaining affinity values, including, for each given one of the entities, a respective affinity value for the given entity and each respective one of the other entities of the collection, the affinity values not being based on content of the entities alone;

initializing significance values for each of the entities;

iteratively calculating updated significance values for each entity, based on the affinities and on the significance values prior to the iterative update, until a predetermined condition is reached; and

obtaining the useful information based on the significance values after the final iteration of the act of iteratively calculating.